

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A system to infer XML schema definitions comprising:

~~a XML document, the XML document having attribute and data type information; and~~
an XSD (XML schema definition) inference engine, the XSD inference engine
configured to accept a ~~accepting the~~ XML document as input;
the XSD inference engine further configured to process the XML document to
generate an XML schema definition, wherein the XML schema definition includes at least an
inferred first ~~defining~~ elements that appear in the XML document, ~~and an inferred first~~
attributes associated with the first elements, and an inferred first data type associated with the
first attribute;

the XSD inference engine further configured to add ~~adding~~ the XML schema
definition to a collection;

the XSD inference engine further configured to accept ~~accepting~~ a second XML
document as input and ~~determining~~ determine if the second XML document includes an
inferred second attribute associated with the inferred first element that is inconsistent with the
inference made with respect to first data type ~~as forms or structures that are unincluded in the~~
~~generated XML schema definition~~, and if so, the XSD inference engine is further configured
to modify the schema definition in the collection by inferring a new data type that is
consistent with the inferred first and second attributes ~~modifying the XML schema definition~~
~~based on the second XML document.~~

Claim 2 (Original): The system as recited in claim 1, wherein the XSD inference engine
comprises a computing application capable of processing XML documents.

Claim 3 (Previously presented): The system as recited in claim 2, wherein the XSD inference
engine comprises at least one inference algorithm operating within the constraints of the
XML schema definition language.

Claim 4 (Canceled)

Claim 5 (Previously presented): The system as recited in claim 1, wherein the second XML document acts as input to the XSD inference engine along with the inferred XML schema definition to create a refined XML schema definition.

Claim 6 (Previously presented): The system as recited in claim 5, wherein the refined XML schema definition acts as input to the XSD inference engine along with a third XML document to produce a second refined XML schema definition.

Claim 7 (Currently amended): A method to infer XML schema definitions comprising:

- receiving an XML document as input, the XML document having ~~some~~ attributes and/or data type information associated the attributes;
- ~~determining~~ inferring the first attributes and/or first data type information present in the XML document;
- generating a schema definition defining elements that appear in the XML document, ~~and inferred first~~ attributes associated with the elements, and inferred first data type information associated with the inferred first attributes from ~~using the determined~~ inferred attributes and/or first data type information;
- adding the schema definition to a collection; and
- receiving a second XML document as input, determining if the second XML document has second attributes associated with the elements and second data type information that is inconsistent with the inference made with respect to the first data type information forms or structures that are unincluded in the schema definition, and if so, modifying the schema definition by inferring new data type information that is consistent with the first and second attributes ~~based on the second XML document.~~

Claim 8 (Original): The method as recited in claim 7, further comprising making existing attributes optional if it is determined that an attribute does not exist in the XML document.

Claim 9 (Original): The method as recited in claim 8, further comprising determining the content model.

Claim 10 (Original): The method as recited in claim 9, further comprising determining if a new schema is to be inferred.

Claim 11 (Original): The method as recited in claim 10, further comprising setting the attribute to optional for existing content.

Claim 12 (Original): The method as recited in claim 11, further comprising determining if there is white space in the XML document.

Claim 13 (Previously presented): The method as recited in claim 12, further comprising setting the date and line number to strings in the event that there exists white space in the XML document.

Claim 14 (Previously presented): The method as recited in claim 12, further comprising determining if a schema definition already exists for the XML document.

Claim 15 (Original): The method as recited in claim 14, further comprising refining the type or inferring the type.

Claim 16 (Original): The method as recited in claim 15, further comprising creating a complex type.

Claim 17 (Original): The method as recited in claim 16, further comprising adding attributes.

Claim 18 (Original): The method as recited in 17, further comprising adding a type.

Claim 19 (Original): A computer readable medium having computer readable instructions to instruct a computer to perform the method as recited in claim 7.

Claim 20 (Previously presented): A computer readable medium having computer readable instructions to instruct a computer to perform the method as recited in claim 18.

Claim 21 (Currently amended): A computer readable medium having computer readable instructions to instruct a computer to generate an XML schema comprising:

an inference algorithm, the inference algorithm for processing ~~operating on~~ XML data to identify first data types associated with first ~~and~~ attributes and generating an XML schema defining elements that appear in the XML data, and the first attributes associated with the elements, and the first data types associated with the first attributes ~~using such type and attribute information in conjunction with XSD (XML schema definition) language parameters and constraints~~, adding the XML schema to a collection, receiving additional XML data and determining if the additional XML data includes second attributes associated with the elements and second data type information associated with the second attributes that are inconsistent with the first data type information ~~there exists forms or structures in the additional XML data that are unincluded in the XML schema~~, and if so, modifying the XML schema by inferring new data type information that is consistent with the first and second attributes ~~based on the additional XML data~~.

Claim 22 (Previously presented): The computer readable medium as recited in claim 21, wherein the inference algorithm is part of a computing application for use in XML data processing.